52-Lead Quad Flat Pack (QFP) Package Change & Transfer

Product Change Notice

PCN1103 (v2.0) February 27, 2013

Overview

This notice describes the package changes to the 52 Lead Quad Flat Pack (QFP) Package for all of Holt's ARINC 429, MIL-STD 1553, and LCD Display Driver family of devices.

Description

Holt Integrated Circuits has been notified that their current assembly supplier CEI has been severely impacted due to flooding in Thailand and will sustain significant delays in returning to full assembly and manufacturing capability.

Holt has therefore added both Greatek Electronic's Taiwan assembly facility and Millennium Microtech's Thailand facility to our qualified supplier list as an approved MQFP package subcontract manufacturer to increase Holt Integrated Circuits manufacturing capacity for products being assembled in this package type.

Greatek Electronics has achieved facility certification to ISO 9001-2008, ISO/TS 16949-2009 and ISO 14001-2004 and has been a Holt qualified supplier for two years. More information is available at Greatek's website: http://www.greatek.com.tw/iso.htm

Millennium Microtech's Thailand facility has achieved facility certification to ISO 9001:2008, ISO/TS 16849-2002 and ISO 14001-2004 and is a DSSC certified QML for these package types. More information is available at Millennium Microtech's website: http://www.m-microtech.com.

Greatek and Millennium Microtech assemble devices in the 52-Lead Quad Flat Pack (QFP) Package which are compliant to JEDEC package drawing MS-022. This change affects FIT and FORM as indicated below:

Assembly Site	CEI-Thailand	Greatek - Taiwan	Millennium Microtech - Thailand
Package Type	LQFP	MQFP	MQFP
JEDEC	N/A	MS-022	MS-022
Package Body	10 x 10 x 1.4 (mm)	1 0 x 10 x 2.0 (mm)	1 0 x 10 x 2.0 (mm)
Footprint	13.2 mm	13.2 mm	13.2 mm
Lead Count	52	52	52
Mold Compound	Sumitomo EME 6600CGL	Sumitomo G600F	Sumitomo G600V
Dap Size	300 mils x 300 mils	300 mils x 300 mils	300 mils x 300 mils
		210 mils x 210 mils	
Die Attach	Ablebond 84-1 LMISR4	CRM-1076DJ-G	2200D
Bond Wire Material	Gold	Gold	Gold
Bond Wire Diameter	1.20 mils	1.20 mils	1.0 mils
Lead Frame Material	Cu w/Ag spot	Cu w/Ag spot	Cu w/Ag spot
Lead Finish	Solder Plate: 80/20 Sn/Pb	Solder Dip: 80/20 Sn/Pb	Solder Plate: 80/20 Sn/Pb
Lead Finish (Pb free devices)	100% matte Sn (RoHS compliant)	100% matte Sn (RoHS compliant)	100% matte Sn (RoHS compliant)
Flammability Rating	UL94 V-0 and IEC Standard 695-2-2	UL94 V-0 and IEC Standard 695-2-2	UL94 V-0 and IEC Standard 695-2-2
Moisture Sensitivity Level	Level 3	Level 3	Level 3
Reflow Temperature	260 °C	260 °C	260 °C

The 52-MQFP package assembly is fully qualified at the Greatek, Taiwan and Millennium Microtech, Thailand locations. (See Qualification Data in Table 2) There is no change to Function, Quality or Reliability of these devices.

Reason

The 52-Lead MQFP at Greatek, Taiwan and Millennium Microtech, Thailand, are being added to ensure uninterrupted and guaranteed supply of QFP package configuration device products.

Products Affected

Table 1 summarizes the products affected by this PCN. All parts listed are affected by this change.

HI-3582PQx
HI-3582PQx-10
HI-3583PQx
HI-3583PQx-10
HI-3584PQx
HI-3584PQx-10
HI-3582APQx
HI-3582APQx-15
HI-3583APQx
HI-3583APQx-15
HI-3584APQx
HI-3584APQx-15
HI-3598PQx
HI-8582PQx
HI-8582PQx-10
HI-8583PQx
HI-8583PQx-10
HI-8584PQx
HI-8584PQx-10
HI-6110PQx
HI-6121PQx
HI-8010PQx
HI-8051PQx
HI-8110PQx
HI-8151PQx

Traceability

A Date Code facilitates package traceability. Parts from Table 1 can be shipped with a Date Code of 1145 or later, beginning Jan 1st, 2012. Product from the CEI, Thailand location will stop shipping upon inventory depletion.

Qualification Data: **Table 2**

Reliability Test	Requirement	Results		Results	Results	Results
		QR-1003 Rev 1.0 100-LQFP HI-8045	100-LQFP HI-6120	QR-1131 Rev 1.0 44-MQFP	QR-1137 Rev 1.0 52-MQFP	QR-1143 Rev 1.0 52-MQFP
Device Characterization	Final Test yield analysis over -55^{o}C and +125^{o}C temperature extremes.	225/0	225/0	225/00	225/00	225/00
Precondition (PC)	MSL 3	11/0	11/0	11/0	11/0	11/0
PC + HAST	96 hrs	45/0	45/0	22/0	22/0	22/0
PC + Autoclave	96 hrs	45/0	45/0	22/0	22/0	22/0
PC + Temp Cycle	1000 cycles	45/0	45/0	22/0	22/0	22/0
PC + HTS	1000 hrs	45/0	45/0	22/0	22/0	22/0

Response

Note: In accordance with JESD46-C, this change is deemed accepted by the customer if no acknowledgement is received within 30 days from this notice.

No response is required. For additional information or questions, please contact:

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Additional Documentation

Below is a list of documents that are associated with this notice:

- QR-1003 Rev. 1.0 100-Lead QFP Package Qualification Greatek, Taiwan
- QR-1131 Rev. 1.0 44-Lead QFP Package Qualification Greatek, Taiwan
- QR-1143 Rev. 1.0 52-Lead QFP Package Qualification, Millennium Microtech, Thailand

Revision History

The following table shows the revision history for this document.

Date	Version	Revision Description
12/01/11	1.0	Initial Release
02/27/13	2.0	Added Millennium Microtech, Thailand and resulting data

Appendix A

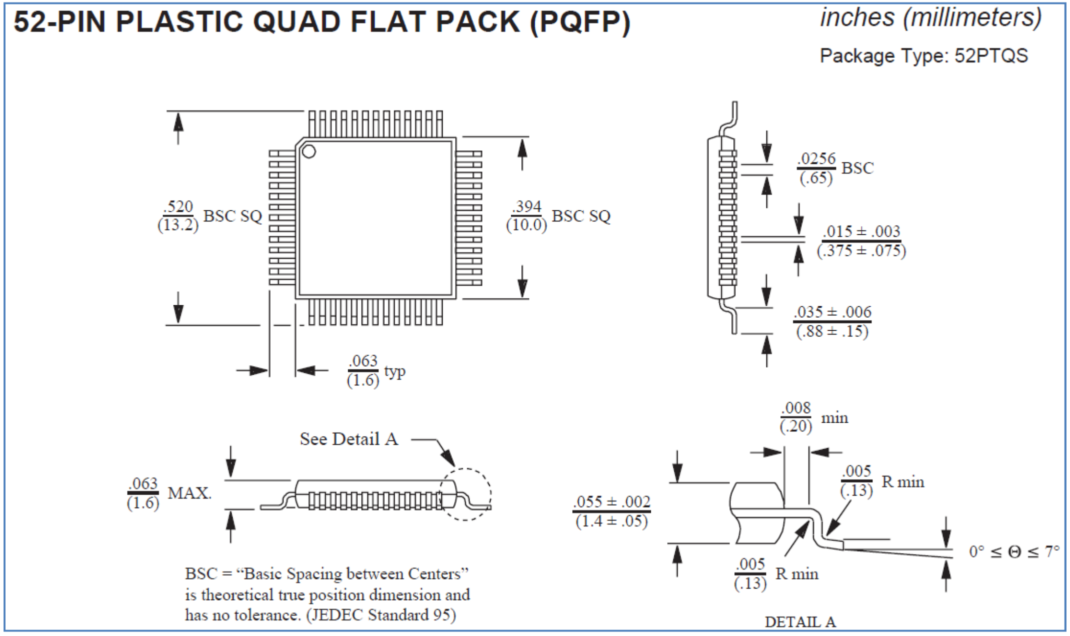

Figure 1) (CEI – LQFP)

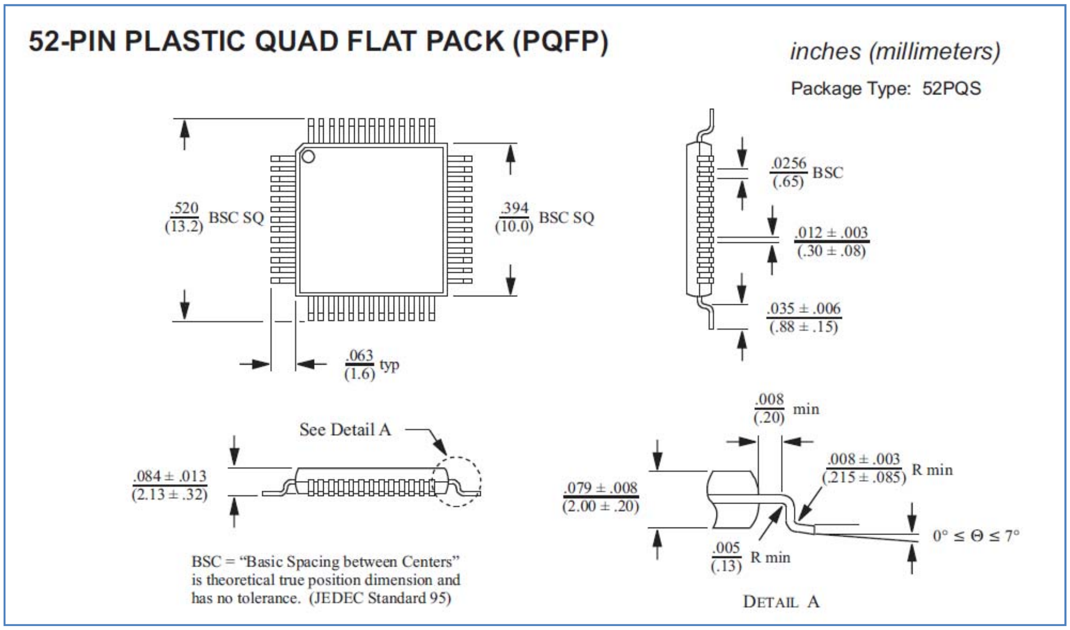

Figure 2) (GREATEK & MILLENNIUM MICROTECH –MQFP)